Conceptualising a disaster app:
consolidating public alerting authorities' social media and broadcast messages

Marion Lara Tan | Supervisors: Raj Prasanna, Kristin Stock, Emma Hudson-Doyle, Graham Leonard, & David Johnston

Multiple agencies in New Zealand are mandated to warn the public on risks, hazards, or emergencies. The agencies have a plethora of public alerting options; including capabilities to deliver alerts to the public through their mobile devices (Wright et al., 2014). The options directed to mobile devices currently available in New Zealand includes social media, apps, and broadcast messaging. Each of these options have their strengths but also weaknesses. The conceptual app targets the citizens as end-users. It aggregates information from all authorised agencies; addressing some of the challenges posed by various mobile options (See Table 1).

Initial Concept

The initial motivations for the app concept are:

(1) to lessen noise by providing a platform that consolidates the messages from various public alerting agencies,

(2) to keep users updated even in non-crises times by providing an active real-time feed of the authorities' social media accounts. The app also contains preparedness information

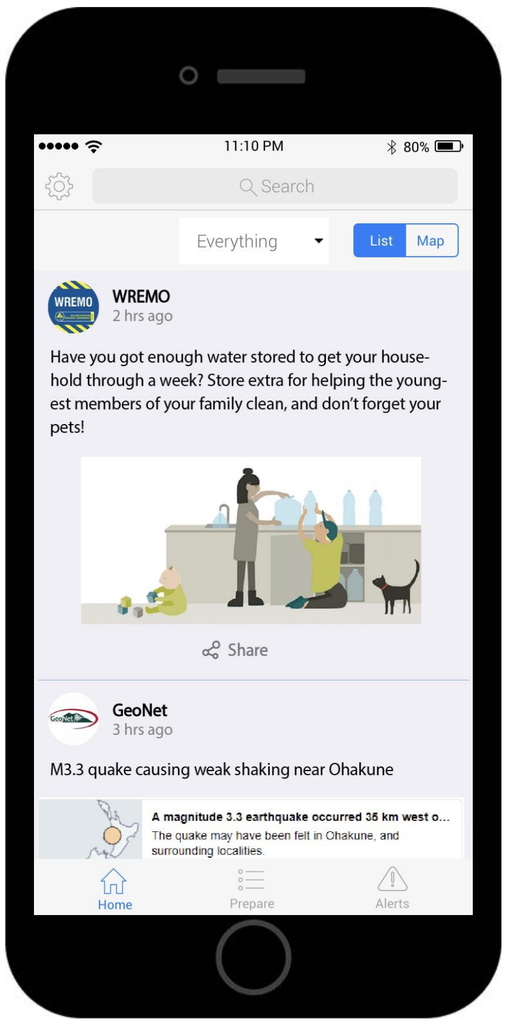
(3) to address the emergency alert message retrieval issue by collating, storing, and displaying emergency alert messages for users to access.

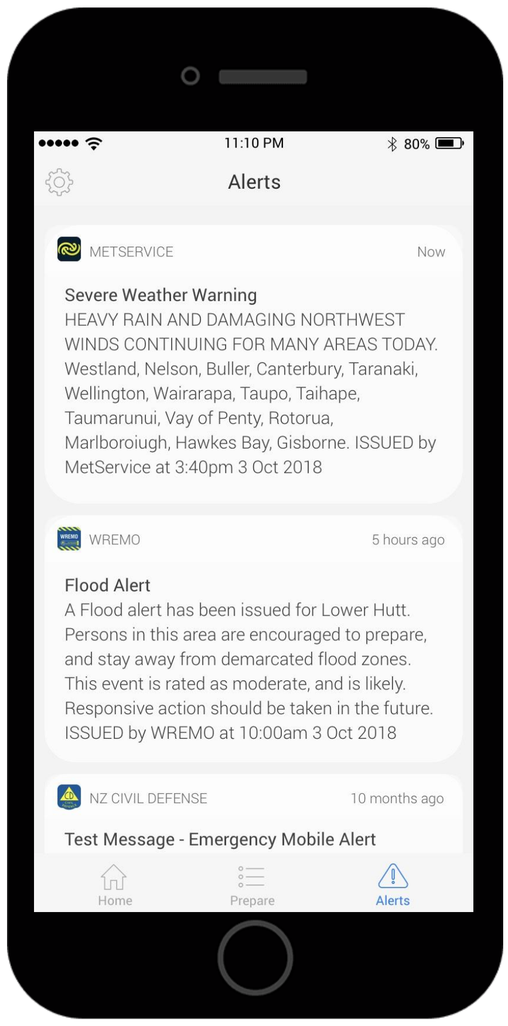
Table 1. Issues addressed by proposed app

Social media platforms	• Lack of prioritisation of urgent messages from alerting authorities • Noise from non-hazard content
Existing disaster app	• App is idle when no event happens
Broadcast alerting	• Some usability issues on emergency alert message retrieval*

**In a test broadcast in New Zealand, one of the issues encountered was the disappearance of the alert messages (MCDEM, n.d.)*

The app is partitioned into three screens: home screen, alert screen, prepare screen (See Figure 1)





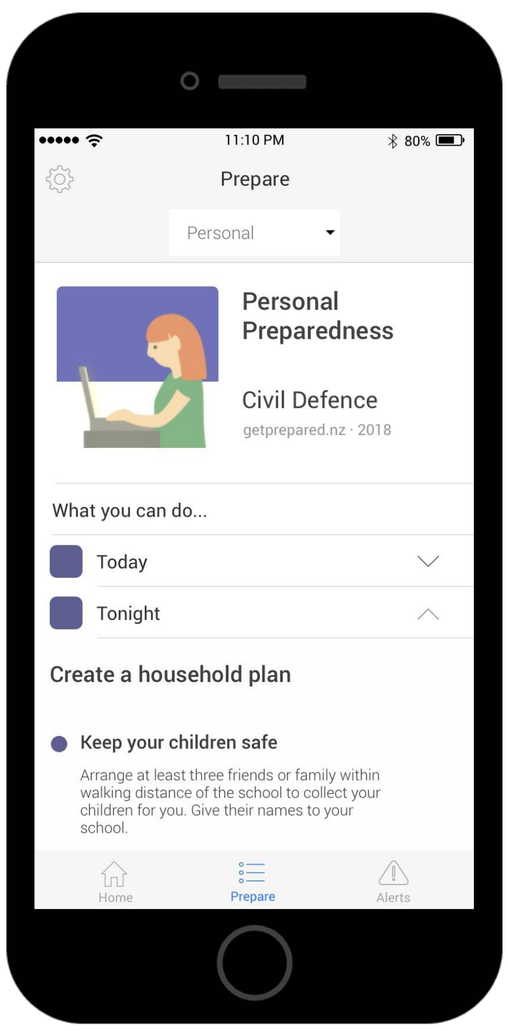


Figure 1. App screenshots

The **alert screen** will collate, store, and display official emergency alert messages from alerting authorities. Users can make errors when under due stress which may cause them to dismiss alerts before reading the information. By storing broadcast messages, this allows users to retrieve the information as needed.

The **home screen** will display real-time content from public alerting authorities' Twitter and Facebook feeds. By displaying only information from official sources, the app reduces the noise that may be encountered when solely relying on information social media apps.

The **prepare screen** will be a repository of credible emergency preparedness information. Users can access the information even when offline.

Ongoing and future work

The researcher has built a mock-up interface based on the initial concept and also the usability model by Tan et al. (2018). The researcher conducted a user inquiry using the mock-up, interviewing 18 target end-users. The next steps include completing the analysis and presenting the results in the form of usability guidelines. Future theoretical work on disaster app usability will build on the wider implications of the results of the inquiry.

References:

Ministry of Civil Defence and Emergency Management. (n.d.). Emergency Mobile Alert frequently asked questions (FAQ). Retrieved February 2, 2019, from https://www.civildefence.govt.nz/get-ready/civil-defence-emergency-management-alerts-and-warnings/emergency-mobile-alert/emergency-mobile-alert-frequently-asked-questions-faq/

Tan, M. L., Prasanna, R., Hudson-Doyle, E., Stock, K., Johnston, D., & Leonard, G. (2018). Usability factors affecting the continuance intention of disaster apps. In K. Stock & D. Bunker (Eds.), *Proceedings of ISCRAM Asia Pacific 2018*. (pp. 326–338). Wellington.

Wright, K. C., Leonard, G., Beatson, A., Morris, B., O'Sullivan, R., Coomer, M. A., & Freire, D. (2014). *Public Alerting Options Assessment: 2014 update*. GNS Science.

MASSEY UNIVERSITY
TE KUNENGA KI PŪREHUROA
UNIVERSITY OF NEW ZEALAND

JOINT CENTRE FOR DISASTER RESEARCH

For more details, please contact **Marion Tan**
M.L.Tan@massey.ac.nz